

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P558962

Luminaire Tested: FSR-12-1-LD4-1STD-50-UNV-80-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P558962
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-12-1-LD4-1STD-50-UNV-80-85-EDD-90
Description: 1X1 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRON
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 689.0 lumens
Efficiency: N/A
Efficacy: 83.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
CIE Type: Direct

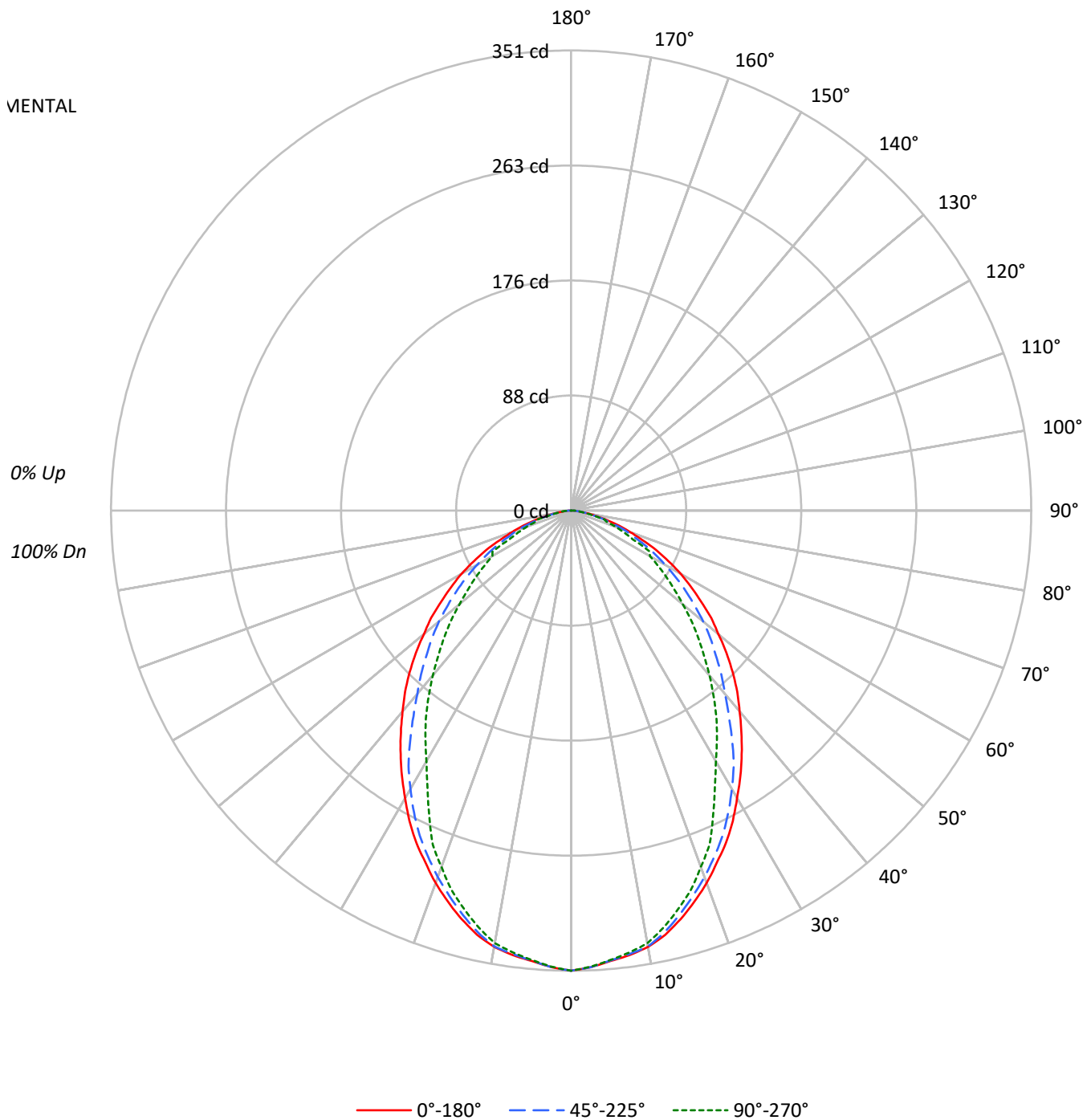
Input Watts (W): 8.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P558962

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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|-----|---|--|---|
| RF | 20 | | | | | 20 | | | | | 20 | | | | | 20 | | | | | 20 | | | | | |
| RC | 80 | | | | | 70 | | | | | 50 | | | | | 30 | | | | | 10 | | | | | 0 |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 | | |
| RCR | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | | | | | 100 | | | |
| 1 | 110 | 106 | 102 | 99 | 108 | 104 | 100 | 97 | 100 | 97 | 94 | 96 | 94 | 91 | 92 | 90 | 89 | 87 | | | | | 87 | | | |
| 2 | 101 | 94 | 88 | 83 | 99 | 92 | 87 | 82 | 89 | 84 | 80 | 86 | 82 | 78 | 83 | 79 | 77 | 75 | | | | | 75 | | | |
| 3 | 93 | 84 | 77 | 71 | 91 | 82 | 76 | 70 | 79 | 74 | 69 | 77 | 72 | 68 | 74 | 70 | 67 | 65 | | | | | 65 | | | |
| 4 | 86 | 75 | 67 | 61 | 84 | 74 | 66 | 61 | 72 | 65 | 60 | 69 | 64 | 59 | 67 | 62 | 58 | 56 | | | | | 56 | | | |
| 5 | 80 | 68 | 60 | 54 | 78 | 67 | 59 | 53 | 65 | 58 | 53 | 63 | 57 | 52 | 61 | 56 | 52 | 50 | | | | | 50 | | | |
| 6 | 74 | 62 | 53 | 48 | 72 | 61 | 53 | 47 | 59 | 52 | 47 | 57 | 51 | 47 | 56 | 50 | 46 | 44 | | | | | 44 | | | |
| 7 | 69 | 56 | 48 | 43 | 67 | 56 | 48 | 42 | 54 | 47 | 42 | 53 | 46 | 42 | 51 | 46 | 42 | 40 | | | | | 40 | | | |
| 8 | 65 | 52 | 44 | 38 | 63 | 51 | 44 | 38 | 50 | 43 | 38 | 49 | 42 | 38 | 48 | 42 | 38 | 36 | | | | | 36 | | | |
| 9 | 61 | 48 | 40 | 35 | 59 | 47 | 40 | 35 | 46 | 39 | 35 | 45 | 39 | 34 | 44 | 38 | 34 | 33 | | | | | 33 | | | |
| 10 | 57 | 44 | 37 | 32 | 56 | 44 | 37 | 32 | 43 | 36 | 32 | 42 | 36 | 32 | 41 | 36 | 32 | 30 | | | | | 30 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 3778 | 3778 | 3778 |
| 5° | 3727 | 3722 | 3718 |
| 10° | 3694 | 3690 | 3663 |
| 15° | 3595 | 3558 | 3509 |
| 20° | 3463 | 3407 | 3314 |
| 25° | 3321 | 3248 | 3045 |
| 30° | 3147 | 3046 | 2743 |
| 35° | 2980 | 2815 | 2537 |
| 40° | 2810 | 2566 | 2309 |
| 45° | 2650 | 2372 | 2087 |
| 50° | 2453 | 2202 | 1862 |
| 55° | 2269 | 1995 | 1668 |
| 60° | 2080 | 1783 | 1494 |
| 65° | 1829 | 1561 | 1322 |
| 70° | 1507 | 1366 | 1124 |
| 75° | 1198 | 1048 | 1098 |
| 80° | 806 | 756 | 707 |
| 85° | 506 | 605 | 704 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2650 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 32.7 | 4.7 |
| 10°-20° | 89.7 | 13.0 |
| 20°-30° | 124.1 | 18.0 |
| 30°-40° | 132.4 | 19.2 |
| 40°-50° | 120.7 | 17.5 |
| 50°-60° | 94.6 | 13.7 |
| 60°-70° | 61.6 | 8.9 |
| 70°-80° | 27.3 | 4.0 |
| 80°-90° | 5.9 | 0.9 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 246.5 | 35.8 |
| 0°-40° | 378.8 | 55.0 |
| 0°-60° | 594.2 | 86.2 |
| 0°-90° | 689.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 689.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 351 | 351 | 351 | 351 | 351 | |
| 5° | 345 | 344 | 344 | 344 | 344 | 33 |
| 15° | 323 | 323 | 319 | 316 | 315 | 91 |
| 25° | 280 | 278 | 274 | 264 | 256 | 128 |
| 35° | 227 | 225 | 214 | 198 | 193 | 142 |
| 45° | 174 | 170 | 156 | 143 | 137 | 134 |
| 55° | 121 | 117 | 106 | 94 | 89 | 108 |
| 65° | 72 | 68 | 61 | 62 | 52 | 71 |
| 75° | 29 | 27 | 25 | 24 | 26 | 31 |
| 85° | 4 | 4 | 5 | 5 | 6 | 6 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P558962

CATALOG NUMBER: FSR-12-1-LD4-1STD-50-UNV-80-85-EDD-90

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 351.0 | 351.0 | 351.0 | 351.0 | 351.0 |
| 2.5° | 348.5 | 348.5 | 348.5 | 348.1 | 348.1 |
| 5° | 344.9 | 344.5 | 344.5 | 344.1 | 344.1 |
| 7.5° | 342.0 | 341.6 | 341.2 | 340.8 | 340.0 |
| 10° | 338.0 | 338.0 | 337.6 | 335.5 | 335.1 |
| 12.5° | 331.5 | 331.1 | 329.5 | 326.6 | 325.8 |
| 15° | 322.6 | 322.6 | 319.3 | 316.1 | 314.9 |
| 17.5° | 312.8 | 312.4 | 308.4 | 305.1 | 303.5 |
| 20° | 302.3 | 301.5 | 297.4 | 292.1 | 289.3 |
| 22.5° | 290.5 | 290.5 | 285.6 | 278.7 | 275.9 |
| 25° | 279.6 | 277.9 | 273.5 | 263.7 | 256.4 |
| 27.5° | 267.0 | 264.5 | 259.7 | 245.9 | 237.4 |
| 30° | 253.2 | 252.0 | 245.1 | 227.2 | 220.7 |
| 32.5° | 240.2 | 238.2 | 230.9 | 212.2 | 206.9 |
| 35° | 226.8 | 225.2 | 214.2 | 198.0 | 193.1 |
| 37.5° | 213.4 | 211.4 | 197.6 | 184.6 | 178.5 |
| 40° | 200.0 | 197.6 | 182.6 | 170.8 | 164.3 |
| 42.5° | 187.5 | 184.2 | 169.6 | 157.0 | 149.7 |
| 45° | 174.1 | 170.4 | 155.8 | 142.8 | 137.1 |
| 47.5° | 160.7 | 157.4 | 144.0 | 130.6 | 124.2 |
| 50° | 146.5 | 143.6 | 131.5 | 118.1 | 111.2 |
| 52.5° | 134.7 | 130.2 | 118.5 | 105.1 | 99.4 |
| 55° | 120.9 | 117.3 | 106.3 | 93.7 | 88.9 |
| 57.5° | 108.3 | 104.7 | 94.5 | 82.8 | 78.7 |
| 60° | 96.6 | 91.3 | 82.8 | 72.6 | 69.4 |
| 62.5° | 83.6 | 79.5 | 72.2 | 63.7 | 67.8 |
| 65° | 71.8 | 67.8 | 61.3 | 62.5 | 51.9 |
| 67.5° | 58.8 | 56.8 | 51.1 | 45.4 | 43.8 |
| 70° | 47.9 | 45.4 | 43.4 | 37.3 | 35.7 |
| 72.5° | 38.1 | 35.7 | 32.9 | 29.6 | 28.4 |
| 75° | 28.8 | 26.8 | 25.2 | 23.9 | 26.4 |
| 77.5° | 19.9 | 19.1 | 17.9 | 16.6 | 16.2 |
| 80° | 13.0 | 12.6 | 12.2 | 11.8 | 11.4 |
| 82.5° | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 |
| 85° | 4.1 | 4.5 | 4.9 | 5.3 | 5.7 |
| 87.5° | 2.4 | 2.4 | 2.8 | 3.2 | 3.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)